

EXHIBIT D

EXHIBIT 9

REDACTED VERSION OF DOCUMENT

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION**

SPACE DATA CORPORATION,)	
)	
Plaintiff,)	Case No.: 5:16-cv-03260-BLF
)	
v.)	
)	
ALPHABET INC., GOOGLE)	
LLC, and LOON LLC.,)	
)	
Defendants.)	
)	

Expert Report of Christine S. Meyer, Ph.D.

SEPTEMBER 14, 2018

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9. I may use the materials that I have identified, as well as other information that has been or may be produced during the course of this case, to support my testimony at deposition and at trial. Additionally, I may use demonstrative materials based on this information and my analyses to support that testimony.

D. Summary of Opinion

10. My work in this matter is ongoing. Accordingly, I expressly reserve the right to supplement these opinions, if warranted, based on, for example, the receipt of additional relevant information, or if additional research or reflection leads me to change my opinion.
11. Based on the information available to me and my analysis to date, I have reached the following principal conclusions:
- a. Google's infringement of the '193 Patent enabled its Project Loon, now an independent company, Loon LLC, to launch and deploy its balloon-based Internet technology.
 - b. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- d. In the hypothetical negotiation, Space Data would have considered that Project Loon was a direct and formidable competitor to Space Data since its initial public trials in 2013, and that granting Loon a license to the '193 Patent would likely further harm Space Data's ability to successfully and profitably compete for commercial projects. Thus, Space Data would have had a substantial reservation price in the hypothetical negotiation.
- e. Based on Loon's assessments of the cost savings associated with StationSeeking, an apportionment of those cost savings to account for aspects other than the '193

Patent, Space Data's reservation price, and Space Data's bargaining power, which would have been considerably stronger than that of Loon, I determine that reasonable royalty damages for the '193 Patent would be absolutely no less than \$110.3 million and could be considerably higher.

- f. Damages from the Defendants' misappropriation of trade secrets would be equal to the unjust enrichment that they enjoyed from this misappropriation. This value is defined by the research and development ("R&D") expenses that Google avoided by misappropriating Space Data's trade secrets, which allowed it to confirm Project Loon's technology as technically and commercially viable. The value of Google's unjust enrichment from its theft of Space Data's trade secrets would be no less than the amount that Space Data spent to develop those trade secrets, [REDACTED]
- g. Damages from the Defendants' breach of contract enabled their misappropriation of Space Data's trade secrets, and provided other benefits associated with the additional confidential information that was inappropriately disseminated. Thus, it would be at least equal to the unjust enrichment that they enjoyed by using these trade secrets.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

V. Damages for Theft of Trade Secrets

A. Overview

211. I understand that damages from misappropriation of trade secrets may be calculated as the Plaintiff's lost profits, the Defendant's unjust enrichment or as a reasonable royalty.⁵³¹ Because of the nature of the trade secrets at issue and the use of them by Google and Loon, I have calculated damages from the misappropriation of trade secrets as Defendant's unjust enrichment.

212. Damages for misappropriation of trade secrets would likely be structured as a lump-sum amount, calculated as the avoided R&D costs for Google by allegedly using Space Data's

⁵²⁸ See, Section III.E.6.; GOOG-SD-00143180-254 at 206; GOOG-SD-00301003-066 at 013; Space Data's July 13, 2018 Amended Responses to Google's Interrogatory Nos. 12, 15, 16, 17, 19, 20 and 23, p. 29.

⁵²⁹ GOOG-SD-00303635 ("Complimentary Models").

⁵³⁰ GOOG-SD-00303635 ("Complimentary Models").

⁵³¹ Space Data's July 13, 2018 Amended Responses to Google's Interrogatory Nos. 12, 15, 16, 17, 19, 20 and 23, p. 21.

trade secrets.⁵³² This is a reasonable approach because, had Google not misappropriated the trade secrets, it may have been able to get itself to the same level of knowledge and understanding by undertaking the same or similar R&D as Space Data, thereby incurring similar costs as Space Data actually incurred to develop the knowledge inherent in the trade secrets. By misappropriating the trade secrets, Google saved those R&D costs, thereby enriching itself by that amount.

B. Unjust Enrichment from Trade Secret Misappropriation

213. The importance of the technology at issue is that it can address the widespread problem of limited Internet connectivity in unserved and underserved areas of the world. In particular, I understand that several players are currently tackling the problem of providing Internet connectivity in places where it is not economically viable through standard methods. For example, companies like Facebook, Elon Musk's SpaceX, Richard Branson's Virgin, and Microsoft have invested in (or sponsored) programs aimed at providing Internet access to underserved areas.⁵³³ The involvement of these companies in Internet satellite technologies demonstrates the existence of a vast, recognized interest in providing Internet connectivity through non-traditional ways. I understand that Loon benefitted from the use of Space Data's trade secrets to be more confident of the viability of a balloon-based Internet system and to be able to effectively address this need earlier

⁵³² *Id.*, pp. 8-16.

⁵³³ "Billionaires hit launch in web space race," *The Daily Telegraph*, available <https://global.factiva.com/redir/default.aspx?P=sa&an=DT00000020180724ee7o00083&cat=a&ep=ASE>, accessed September 10, 2018; "Microsoft Invests In African Startups In Bid To Improve Internet Access On The Continent," *Mehr News Agency*, available <https://global.factiva.com/redir/default.aspx?P=sa&an=MENEAG0020180810ee8a000gp&cat=a&ep=ASE>, accessed September 10, 2018.

than anybody else.⁵³⁴ This benefit provided Loon with an early mover advantage in the marketplace.

214. I understand that Google's alleged misappropriation of Space Data's trade secrets provided Google with evidence regarding the possibility of flying a balloon constellation. Google could forgo spending the money and time Space Data had invested in gathering and developing its trade secrets and start with a conviction that the core idea of Loon—precise control of balloon arrays at stratospheric altitudes—was something entirely possible.

215. Without appropriating Space Data's trade secrets that showed the technical and financial viability of maintaining and navigating an array of balloons at stratospheric altitudes, Google and Loon would have had to spend, at a minimum, the same considerable amount of R&D costs Space Data incurred in developing its trade secrets, including the 200,000 flight hours of testing, just to arrive at the conviction that precise balloon control at stratospheric regions, and by extension, Project Loon, was possible.⁵³⁵ Such conviction was extremely valuable in that it saved Google not only a significant sum in R&D costs, but also a considerable amount of time in Loon's development, making it possible for Loon to be an early entrant in the market.

216. As such, I estimate the cost savings that Loon would have obtained at minimum by quantifying the R&D cost Space Data has incurred in collecting and developing its

⁵³⁴ "Billionaires hit launch in web space race," *The Daily Telegraph*, available at <https://global.factiva.com/redir/default.aspx?P=sa&an=DT00000020180724ee7o00030&cat=a&ep=ASE>, accessed September 10, 2018.

⁵³⁵ Space Data's July 13, 2018 Amended Responses to Google's Interrogatory Nos. 12, 15, 16, 17, 19, 20 and 23, p. 30.

proprietary trade secrets from April 1997 until February, 2008, the date on which Google took photographs of confidential data during the inspection tour of Space Data facilities and began its misappropriation of trade secrets.⁵³⁶ I conduct this quantification of R&D costs (and thus of damages) on a trade secret by trade secret basis.

217. I understand that Space Data has spent the following for gathering or developing their trade secrets from April 1997 to February 2008: [REDACTED] for wind data trade secrets, [REDACTED] for the hover algorithm trade secrets,⁵³⁷ [REDACTED] for thermal management trade secrets, [REDACTED] for altitude control and monitoring systems, and [REDACTED] for the financial information and business model trade secrets. Therefore, I estimate the unjust enrichment Google would have received by misappropriating Space Data's trade secrets to be [REDACTED] as of February 15, 2008.⁵³⁸

218. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁵³⁶ Complaint, ¶ 165.

⁵³⁷ As discussed previously in Section II.G. of my report, hover algorithm trade secrets consist of the hover algorithm itself, which I understand cost [REDACTED] in R&D spending, and the vent and ballast system associated with the algorithm, which I understand cost [REDACTED] and [REDACTED] in R&D spending respectively, coming to a total of [REDACTED].

⁵³⁸ I understand the R&D spending figures for each trade secret come from the Space Data audits, which have been produced in this case.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

VI. Damages for Breach of Contract

219. I understand that according to the NDA agreement signed between Google and Space Data in 2007, during Google's 2008 visit, the trade secrets and confidential financial material Space Data disclosed to Google may only be used to evaluate the feasibility of Space Data's acquisition by Google.⁵⁴¹ I also understand that Google, after discontinuing its efforts to acquire Space Data, uploaded the confidential materials protected by the NDA agreement to an internal wiki website [REDACTED] [REDACTED] which was in clear violation of the NDA agreement.

220. As such, the Defendants' breach of contract enabled the misappropriation of Space Data's trade secrets and confidential information, and have unjustly enriched Defendants. Thus, the damages for Defendants' unjust enrichment from the breach of contract

⁵³⁹ Complaint, ¶ 8.

⁵⁴⁰ GOOG-SD-00143180-254 at 194.

⁵⁴¹ Complaint, ¶ 111.

therefore provided them at least the same benefit and at a minimum the same unjust enrichment, as the theft of trade secrets.

Signed this 14th day of September, 2018:

A handwritten signature in cursive script, reading "Christine J. Meyer". The signature is written in dark ink and is positioned above a horizontal line.

Christine Meyer, Ph.D.